50,118, and a considerable number had left before the census was taken in 1890.[5] According to one estimate, half the population of western Kansas departed between 1888 and 1892. Twenty vacant towns stood witness to the effects of drought on the entire economy.[6]

Farther south in Texas, farming had not supplanted ranching to any great extent. Generally, the farms were larger than those of the other plains states which had been limited in size by the homestead laws. Having larger farms, Texans were better able to persevere through the drought.[7] Drought also struck the northern plains, and population declined in some areas. As would be the case in the future, drought was not as devastating as it had been in Nebraska, Kansas, and Colorado.[8] Emergency relief measures did not begin with federal assistance in the 1930s. Already in the 19th century state governments were being called upon for assistance. A Mendota, Kansas, housewife wrote to Governor Lewelling in 1894, "I take my pen in hand to let you know that we are starving to death. It is pretty hard to do without anything to eat here in this God forsaken country....My husband went away to find work and came home last night and told me that he would have to starve....If I was in Iowa I would be all right." With such conditions widespread, several state and private

The hardy qualities of the "Turkey Red" wheat brought to the plains by Russian-German immigrants around 1873 became obvious during the dry years. Mark Carleton and others now set out to discover other crops suitable to the area.[12]

Farmers began to adapt their cultural practices to the climate. Hardy Webster Campbell became the chief promoter of dry farming, although some of the measures predated his involvement in the campaign. Campbell's *Soil Culture Manual* (1902) recommend deep fall plowing, thorough cultivation before and after seeding, light seeding, alternating summer fallow, tillage during fallow and crop years, sub-surface packing, and inter-row cultivation.[13]

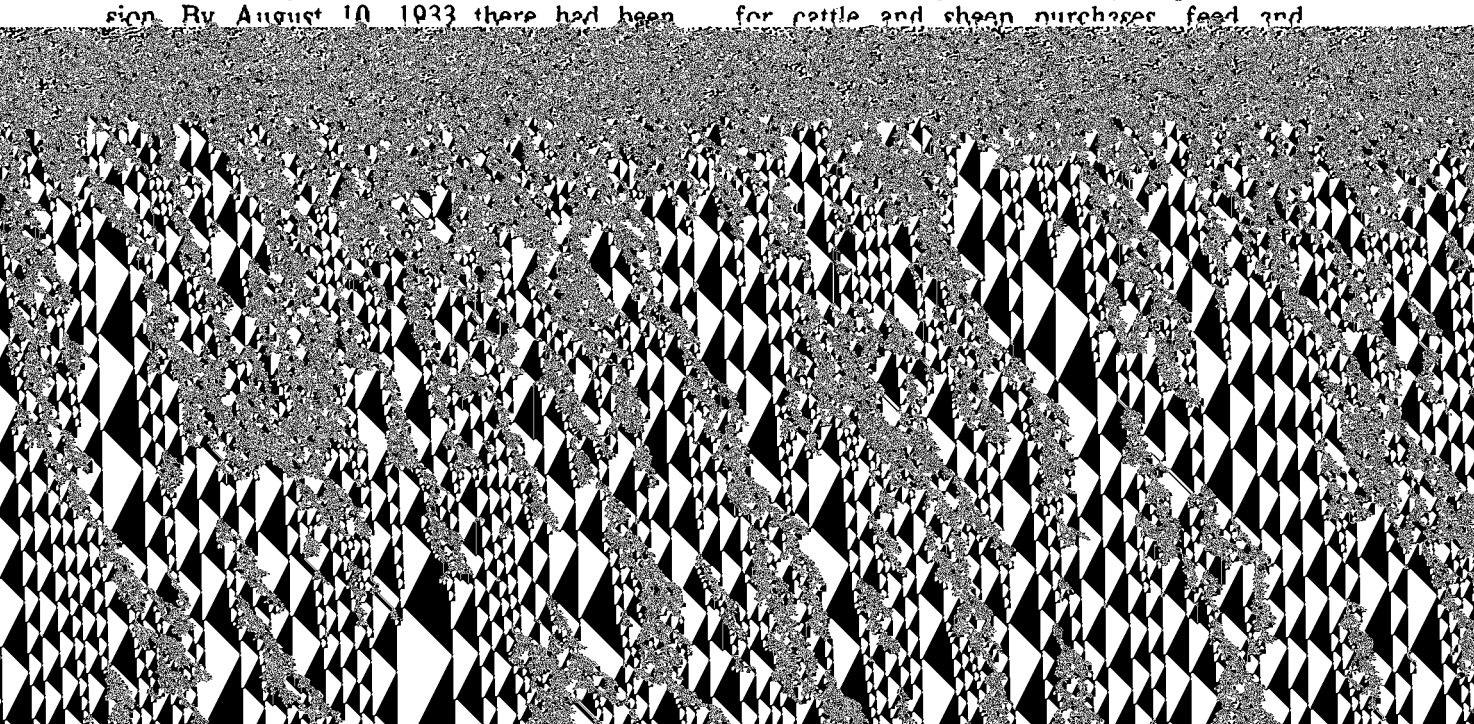
With the return of favorable weather in the first decade of the 20th century, dry farming spread across the plains. Cattle raising was also prospering. Both ventures received a shock with the return of drought in 1910. The dry farming method had some sound elements, but it was no panacea for withstanding drought The dry farming movement was practically destroyed in South Dakota, leading one critic of its more exaggerated claims to surmise that it was time to "to cut out the cheap talk about dry farming and talk cows."[14] Actually the cows were not fairing all that well either

The return of rain in 1914, high prices, and government exhortations to produce for the war effort led to an expansion of wheat growing in the Great Plains. The wheat acreage in the plains areas of Montana, North Dakota, and South Dakota increased from 2,563,000 acres in 1909 to 4,903,000 acres in 1919. Nationwide profits on wheat rose from $56,713,000 in 1913 to $642,837,000 in 1917. Between 1909 and 1924 plains farmers increased the wheat acreage by 17,000,000 acres. Even the drought in 1917-1921 did not measurably slow the change. Many settlers gave up in the northern plains but acreage figures for wheat held steady. Nor did the drop in wheat prices in the early 1920s have much effect. Farmers responded to declining prices by planting more to recoup dwindling profits. Another 15,000,000 acres went from grass to wheat between 1924 and 1929. Much of the expansion in the late 1920s took place in the southern plains where wheat acreage increased 200 percent between 1925 and 1931. With only a few interruptions the years 1914-1931 had been good in terms of weather.[17]

The Dust Bowl

The 1930s ushered in another prolonged drought. Scant use of structural, cultural, and vegetative water conservation measures further complicated the problem. The lack of rainfall prevented good stands of wheat and left the ground barren for wind erosion. By August 10, 1933 there had been

The Soil Conservation Service and its predecessor, the Soil Erosion Service, had increasingly turned their attention to the area. By the end of 1936, SCS had established fifty-five demonstration projects in the Great Plains with a heavy concentration in the worst wind erosion areas. When the projects began in 1934, only 10,454 acres in the project areas were being farmed using soil and water conservation measures. With its large force of Work Projects Administration and Civilian Conservation Corps labor, plus the work of farmers, the Service made progress. The results at the conclusion of 1936 were impressive--conservation measures in place on 600,000 acres--including 155,000 stripcropped acres, 200,000 contour tilled acres, contour furrows on 85,000 acres of grasslands, and 3,600 miles of terraces on 65,000 acres. Additionally, 200,000 acres of grassland were under management to prevent overgrazing. The acreage of erosion retarding crops had been increased twenty-eight percent. With the adoption of conservation district laws by the states, beginning in 1937, the Service extended its technical assistance to areas outside the demonstration projects. The Service assisted in contour listing (an emergency wind erosion control practice) 2,500,000 acres in 1936.[20] The federal government spent $793,000 for emergency wind control measures under its Agriculture Conservation Program in 1938. The total drought emergency expenditures for cattle and sheep purchases, feed and



Again the rain and war seemed to arrive at about the same time. Weather in the Great Plains improved in 1940. The government called on farmers to produce food for the military forces and the allies when World

development of an intermediate type of agriculture to use marginal land. This land is just as capable of being efficiently operated as any

Oklahoma panhandle. Chase and Perkins counties, Nebraska, were listed as critical, as was central Kansas. There were problems in the cotton growing areas of Lamesa-Lubbock, Texas. Eastward across the plains, the western cross timbers of Oklahoma and Texas planted in cotton, wheat, peanuts, and watermelons had also experienced blowing.[26]

The Department of Agriculture set up a Great Plains Committee in April 1950 to study the problem and make recommendations. The drought continued, leaving acre after acre without any vegetation to protect it from erosion. The dust storm that signalled the national awakening to the "filthy fifties" occurred on February 19, 1954. H. H. Finnell observed the storm from Good-

physically transformed into Class VI and VII.[27]

Newspapers treated the nation to stories that depicted little difference between the drought of the 1950s and that of the 1930s, except for the absence of outmigration. The *Washington* (D.C.) *Daily News* proclaimed that the "new dust bowl" was "in roughly the same place on the map as the old one."[28] Actually there had been some significant changes. The area subject to wind erosion was larger and encompassed all of the area of the 1930s. More significantly the centers of the worst areas had shifted and expanded. The area in New Mexico stretched from Quay down to Lea County. Adjoining it in Texas, the blow area was bounded by Palmer County on the north

develop a program to reduce the need to respond periodically with emergency measures. The Soil Conservation Service suggested to the committee that the government use "financial assistance to encourage farmers to convert cropland to grass with the federal government paying at least 50 percent of the cost and making an agreement to continue the program over a 5-year or longer period."[31] The full committee elaborated on the proposal. The report recognized that "diverting the 6 to 8 million acres of cropland that are unsuited for cultivation to grassland is largely a problem of

Administrator of the Soil Conservation Service, wrote to Assistant Secretary of Agriculture Ervin L. Peterson that the soil conservation districts would be a perfect device for implementing whatever plan Congress adopted. Williams made it clear that the districts could incorporate these new activities into their existing programs so as "to insure a permanent, sound coordinated land use and management program in the Great Plains area." To emphasize SCS's interest in the new program Williams made it clear that he was "prepared to ask SCS personnel to aggressively work with the district gov-

explain what the program planned to accomplish in terms of farm management. One of the problems of the plains had been the pattern of outmigration during drought followed by a wave of new settlers when the weather improved. Each new group had to learn the tough lessons that came with the drought. The proposed program [illegible] It [illegible]

Great Plains states to assist them in making orderly changes in their cropping systems and land uses which will conserve soil and water resources and preserve and enhance the agricultural stability of that area."[37]

SCS Selected to Administer Program

Luker appointed task forces on information, cost-sharing and contracts, farm and ranch planning, and meshing the legislative authorities of the various agencies. The group sought and received advice from outside. Federal, state, and local officials and representatives from cattle and sheep raising groups and farm organizations held a January meeting in Denver to draw up suggestions. During the next weeks the task forces met and reported back to the full group with their majority and minority

Home Administration and Jefferson C. Dykes of the SCS disagreed. They pointed out that irrigation was needed on some small ranches to achieve the goal of economic stability by providing supplemental feed. It would help bring about the desired land use change on the rest of the farm. The fear that it could encourage carrying more animals than the ranch could support would be corrected in the contract. The minority view prevailed, and irrigation was included.[43]

contracts. The work unit conservationist was well acquainted with developing conservation farm plans, but the element of contracting was new.

Beginning of GPCP

Berthold Sackman of Stutsman County, North Dakota, signed the first contract on December 19, 1957. The same day, Walter L. Wood and Robert H. Hunt of Gaines County, Texas, signed contracts.[45] These three and the subsequent contracts were to provide from 50 percent up to 80 percent of the average cost of conservation measures and included a schedule for the coordinated implementation of measures. The plans called for an assortment of complimentary conservation measures to stabilize the farm or ranch in accordance with the owners' objectives.

There were cost-sharing items for establishing vegetation on lands previously cropped and for reseeding range. Irrigation for pasture and forage, fencing, and development of water supplies supported the shift to rangeland and were designed to prevent overgrazing. Conservation measures for cropland included contour stripcrop-

benefits neighbors derived from signing up. It was not long before the applications exceeded the amount of money available--a condition that has continued throughout the history of GPCP. By September 1959, twenty months after the first contract was signed, there were 3,142 contracts covering 8,597,385 acres with a federal obligation of $16,794,041. There were 2,579 applications for assistance in SCS offices throughout the Great Plains states.[46]

Limitation on Irrigation and Contract Size

Despite the impressive start, Williams and Luker found reason to reevaluate some aspects of the guidelines. Some of the early contracts had been larger than anticipated, with a substantial part of the funds going to irrigation. Actually, accelerated land treatment could be carried forward more rapidly under large contracts, but the trend held some dangers for the continuation of the program. With limited funds going into the large contracts, many applications would go unserviced. Eventually, there would be criticism that GPCP was only for large farmers and ranchers. Expensive irrigation construction could easily absorb most the money provided in individual contracts.

provide a representative balance in the use of resources."[47]

State conservationists Lyness Lloyd of North Dakota and H. N. "Red" Smith of Texas objected to the percentage limitation on irrigation practices. Lloyd stated that the change would hinder the stabilization of ranches while the conversion to ranching was being made. Irrigation was needed to provide cattle feed and pasture while former cropland was being returned to range.[48] Smith said the alteration in the program would reduce support for GPCP and eliminate a large part of the state from participation. He wrote, "The principal leadership in the Great Plains portion of this state have a strong interest in irrigation farming....The proposed fund limitation for irrigation practices would particularly eliminate irrigated cropland in this state from participation."[49] Objections notwithstanding the limitation of cost-sharing on irrigation practices went into effect. A year later on May 29, 1959, SCS placed a $25,000 limit on individual contracts.[50]

Protecting the Cropland History

The supporters of GPCP managed in 1960 to correct an aspect of the legislation which was viewed as an impediment. Some farmers who were willing to convert cropland to grass or to crops better suited to the land nonetheless wanted to retain the option of keeping the crop allotments and any payments due them. Public Law 1021 had protected the cropland history of the farm for the period of the contract. President Eisenhower signed Public Law 86-793 on September 14, 1960, to protect the cropland history for twice the length of the contract.

Diversity of GPCP Contracts

While the Washington office and state staffs wrestled with administrative and legislative details, significant progress in implementing conservation measures was taking place. GPCP contracts reflected the geographical diversity within the plains, the various

D. H. and Charlene Dean of Claunch, New Mexico, made a total conversion from cropland to ranching. To convert 2,000 acres to grazing land, the Deans installed three ponds and three miles of water lines for livestock, six miles of cross fences, and controlled brush on 845 acres.

Rancher-farmers had more of a mixture of conservation measures for cropland and range. Walter Markel of Gray County, Kansas, had an 804 acre farm. He added 1,800 feet of diversions, installed 21,000 feet of terraces, and contour farmed and stubble mulched 231 acres. Thirty-nine acres were furrow seeded. For better grazing distribution he added 330 rods of fences. Markel had belonged to the local soil conservation district since 1949. He was in some ways typical of many who used GPCP to make progress on a farm conservation plan that they had envisioned for years.

GPCP contracts were used near Dumas, Texas, to solve flooding in the town. Ten farmers constructed 22,120 feet of waterways. In the process, 2,560 acres of irrigated cropland were also protected.

In addition to individuals, it was also possible for groups to sign contracts. A dozen FmHA-financed grazing districts in Montana held GPCP contracts in 1968. The contracts called for over 10,000 acres to be seeded and reseeded and for putting up 39,000 rods of fences. The reseeded range provided twenty-five percent more forage by 1968, with other acres remaining to be reseeded under the contracts.[51]

The use of a GPCP contract on the Dee Hankins farm in Wichita County, Texas, demonstrated the rehabilitation, both physically and economically, of worn-out land. The 815 acres (665 cropland, 140 acres rangeland 10 acres farmstead) had been sold six times in four years. Much of the farm was waterlogged and denuded

irrigated part. Two hundred acres of waterlogged and salt denuded land was seeded to sideoats grama and native grasses. The acres planted in coastal Bermuda grass were hayed, grazed and provided strips of sod to sprig other farms. The farm became economically viable and remained so until Hankins sold it for suburban development.[52]

State Trends in GPCP Contracts

Richard C. White of Texas and Thomas Kleppe and Mark Andrews of North Dakota testified for the extension. Several other congressmen inserted statements into the record. Norman A. Berg, Associate Administrator of SCS, testified for the Department of Agriculture.

Berg could point to 56,601,700 acres covered by 31,122 contracts. Thirty-seven percent of the funds had been spent to

million and an annual budget not to exceed $25 million.

Boundary Extended

The House of Representatives hearings in 1969 created a new "legislative history" that allowed expansion of the exterior boundary. Most of the counties within the original boundary had finally been included. In fact, SCS had already added five outside

remained there until Public Law 92-263, signed on June 6, 1980, extended GPCP for another ten years. Another 49 counties then entered the program, bringing the total to 518.[59]

Contract Size Increased

The matter of the limitations on contract size and irrigation costs have continually been discussed throughout the life of

criteria of being "enduring." Requests to cost-share for stubble mulching and

to demonstrate the necessity of linking cost-sharing technical assistance and good

pace with inflation, the tendency is to expand production to reap an ever diminishing profit on each acre--regardless of the capability of the land. Without endorsing a particular commodity price system, it should be recognized that a

ranch management techniques, but also the expertise of the conservationist increased. Improved stewardship of land has resulted.

The contract between the individual and the government has been the aspect of

> thankful for his determination. I think we have kept the faith with Congress and its intent to provide a unique program--regional in nature--to help us solve those tough wind erosion problems.[65]

The succeeding administrators, Kenneth Grant and R. M. Davis, kept the program on course. The present Chief, Norman Berg, "grew up with the program" and knows the elements that have to be retained to keep it unique. The administrators and chief have relied on specialists to advise and carry out the daily operations of GPCP. Cyril Luker started the program as head of the Inter-agency Group and was followed by Norman A. Berg, William L. Vaught, John W. Arnn, Julius H. Mai, John J. Eckes, and Guy D. McClaskey.

Impact of GPCP

Of necessity, the success of the program must be judged in terms of the land and its condition, compared to the 1950s. What happened to the land? SCS estimated in

However, if the drought is so prolonged on some sandy land that spring germination is impossible, it will make little difference whether the seeds are of drought resistant varieties or not.

Other questions surround the success of GPCP. Did irrigation for pastures and for forage make cattle raising possible for ranchers who did not own enough land for dryland ranching? Have we seen the last of the wild fluctuations in the number of cattle on the range during droughts and good years? Has the program halted the cycles of migration out of the plains during droughts and land speculation in the good years that resulted in each succeeding generation repeating the mistakes of the past? Were farmers and ranchers better able to withstand droughts? Studies in North Dakota and South Dakota indicated that this was the case. In short, did GPCP bring about the agricultural and resource stability promised in 1956? A study of these questions and others would be of interest on the county, state, and regional level. All of them may not be answerable by quantification or by the numbers. Many who partici-

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53

63 Section 162-B-3. *Agricultural Conservation Program Development and General Provisions.* Agricultural Stabilization and

New Authorities and New Roles: SCS and the 1985 Farm Bill

Reprinted from *Implementing the Conservation Title of the Food Security Act of 1985.* Ankeny, Iowa: Soil and Water Conservation Society, 1990. pp. 11-25.

by Douglas Helms,
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Since passage of the Soil Conservation Act in 1935, the U.S. government has tried in various ways to promote soil conservation. Federal policymakers have promoted [illegible]

Many individuals and organizations in the environmental movement who lobbied for the act are now monitoring the progress. There [illegible]

slopes...and tearing out windbreaks that took many years to establish." From the southern Great Plains, there were "reports of speculators breaking ground and preparing to plant cotton on thousands of acres of native rangeland that have never been used for crops before" (5). Farmers converting to irrigation did remove wide windbreaks, but later an SCS survey found

involved some land not used for production over the past 40 or so years (16).

The expansion of acreage in grain crops also turned people's attention to soil erosion. Questions arose about the wisdom of expanding grain production for export, hoping to reduce the balance of payments, but at the same time causing more soil ero-

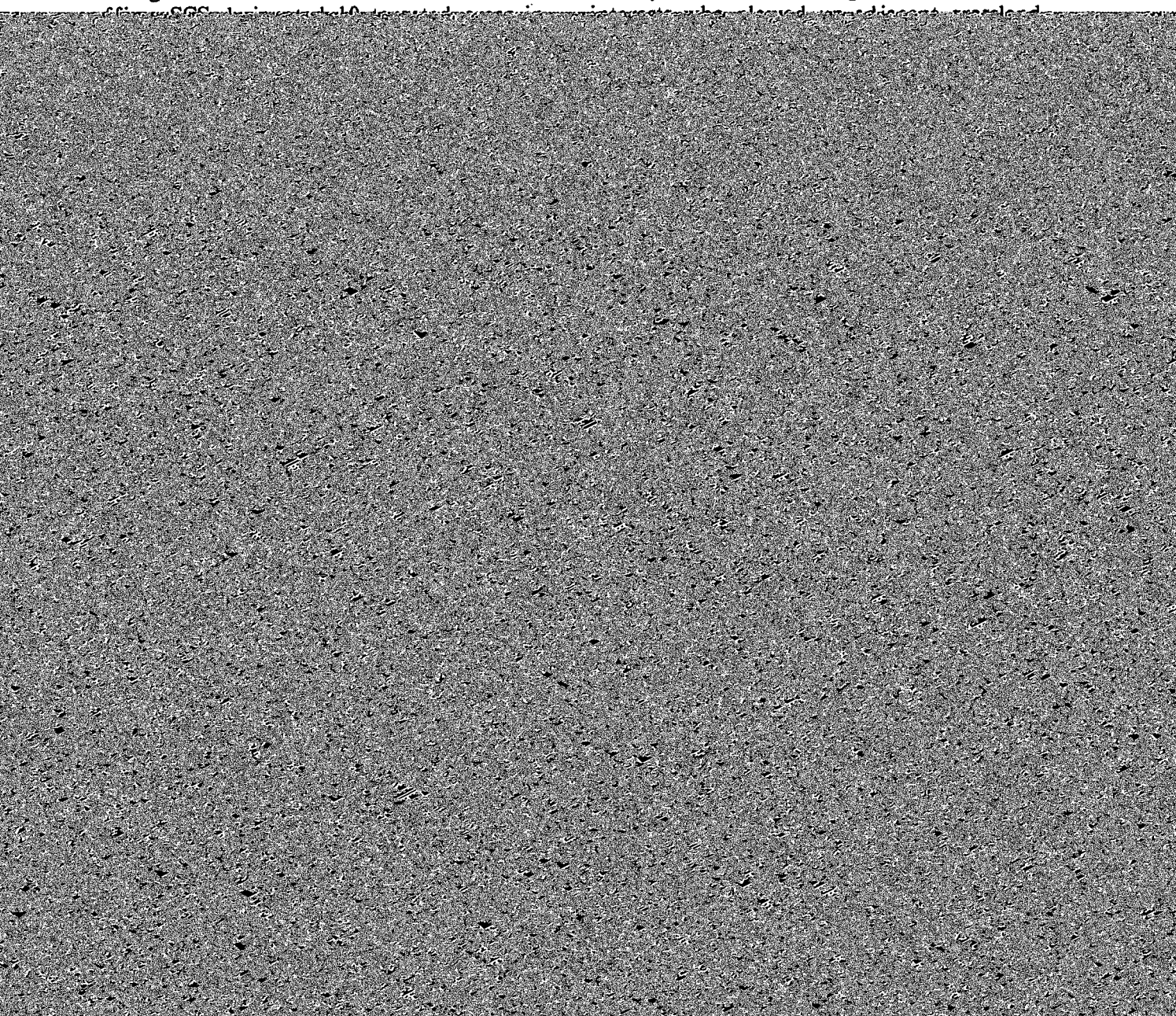
process, as it came to be called, required the USDA to report to Congress on four interrelated topics: the status and condition of America's natural resource base, the present and likely future demands on these resources, the programs needed to protect and enhance these resources for sustained use, and any new approaches that may be needed (12). Government observers in the United States often scoffed at the prospect of another study as a way of evading a

little additional money for soil conservation; rather, there might be less. As Congress, USDA agencies, and public interest groups debated the final RCA report and recommendations, Congress completed the 1981 farm bill (12). The Agriculture and Food Act of 1981 (Public Law 97-88) included several major conservation provisions.

The Farmland Protection Policy Act sought to minimize "the extent to which federal

"targeting" as another way to direct funds and people to problem areas. USDA did not have additional funds for special areas, but did start a targeting program. The action came under existing law and did not require legislative authority. The RCA report to Congress recommended that soil conservation programs be moved away from the traditional first-come, first-served allocation and shifted to designated resource problem areas where excessive soil erosion, water shortages, flooding, or other problems threatened long-term agricultural productivity. SCS and ASCS were to devote an additional five percent of their technical and financial assistance to the targeted areas until 25 percent of their funds were going to targeted areas (39, 40). From its national

Meanwhile, other events shaped the legislative climate in which the conservation sections of the 1985 farm bill would be considered. The Great Plains, scene of the renowned Dust Bowl of the 1930s, provided some of the impetus. Between 1977 and 1982 wheat farmers planted large tracts of grassland in Montana (1.8 million acres), South Dakota (750,000 acres), and Colorado (572,000 acres). In some places the resulting wind erosion proved a nuisance to neighboring farmers as windblown dust covered irrigated pasture and piled up against fences. Some vocal and effective local landowners wanted action, especially Edith Steiger Phillips of Keota, Colorado. She persuaded county commissioners in Weld County to take action against out-of-state



The grassroots actions to support legislation gave greater credence to Washington-based pressure for linking soil conservation and commodity programs. In addition to Weld County, other counties in Colorado and Petroleum County in Montana passed ordinances to try to prevent plowing of native grassland (20, 26).

The bill provided a forum for the conservation groups to promote a broader conservation section. NACD, for example, testified that denial of participation in USDA programs because of sodbusting should not be limited to price-support programs. Other suggestions further defined the marginal land in terms of land capability classification and set in process an attempt to define fragile land and, eventually, highly erodible land (17).

In 1981 Senator Armstrong incorporated many of these suggestions in an amendment, "Agricultural Commodity Production on Highly Erodible Land," to an agricultural appropriations act. It passed the Senate but was eliminated in the conference committee (35). In the next congressional session he introduced S. 663, "Prohibition of Incentive Payments for Crops Produced on Highly Erodible Land." The bill still pertained to sodbusting, or land that had not been cultivated during the past 10 years. The sodbuster bill drew wide support from such organizations as the American Farm Bureau Federation and the National Farmers Union. Peter C. Myers, chief of SCS, spoke for the department in support of the bill (36).

During 1983 there were additional hearings on the sodbuster and other soil conservation initiatives that eventually came to be included in the farm bill. While USDA supported the sodbuster provisions, the Kind) program provided an example of how farm programs could deflect conservation aims. USDA needed to reduce crop surpluses to boost prices and hopefully reduce the cost of price support programs. Out of several options, USDA officials in the early 1980s selected PIK, just one of several tools at their disposal that could be used in price support programs. It offered the possibility of reducing crop surpluses, which were depressing prices, by paying farmers in-kind, with farm commodities, to reduce their planted acreage. Proponents of tying conservation to the farm programs often held that commodity programs encouraged farmers to push their cropland base to the limit in order to be able to participate in annual set-aside programs. Conversely, farmers who voluntarily put erodible land into pasture, forests, or cover crops found that such land was not eligible for programs like PIK. The voluntary set-aside, a key element in some bills introduced in Congress, sought to address this problem. Reports that the "conservation-use acres" under PIK achieved less for conservation than projected also highlighted the problems of programs in which conservation was a secondary benefit (3, 9, 22).

Another Opportunity

The 1985 farm bill provided the next opportunity to incorporate conservation into agricultural programs. Developments in the farm economy also made for some significant changes. U.S. farmers had lost significantly in export markets. During the embargoes on grain to the Soviet Union, other countries increased production and exports. The rising value of the dollar further weakened the American farmer's position as an exporter. Farmers were caught in the price-cost squeeze, especially those who had bought land and equipment in the 1970s and who were faced with

in the cost of commodity programs ($17.7 billion in fiscal year 1985), the administration began looking for ways to reduce costs in the future. Not only were individual farmers in trouble, but the whole farm credit system administered by USDA and the Farm Credit Administration was tottering. All these matters required attention from Congress (4).

Urban interests had for some time bargained with farm state representatives in giving their support to agricultural programs. In some cases, the legislation benefited both sides, as in the school lunch and food stamp programs. In what turned out to be a very prophetic analysis, Don Paarlberg,

maximum in price support programs. There was less incentive to adjust production to price or to make the land use changes that matched land to its best uses. In a sense, farmers who voluntarily retired land to less intensive uses were penalized because they reduced the size of their potential payments under commodity programs.

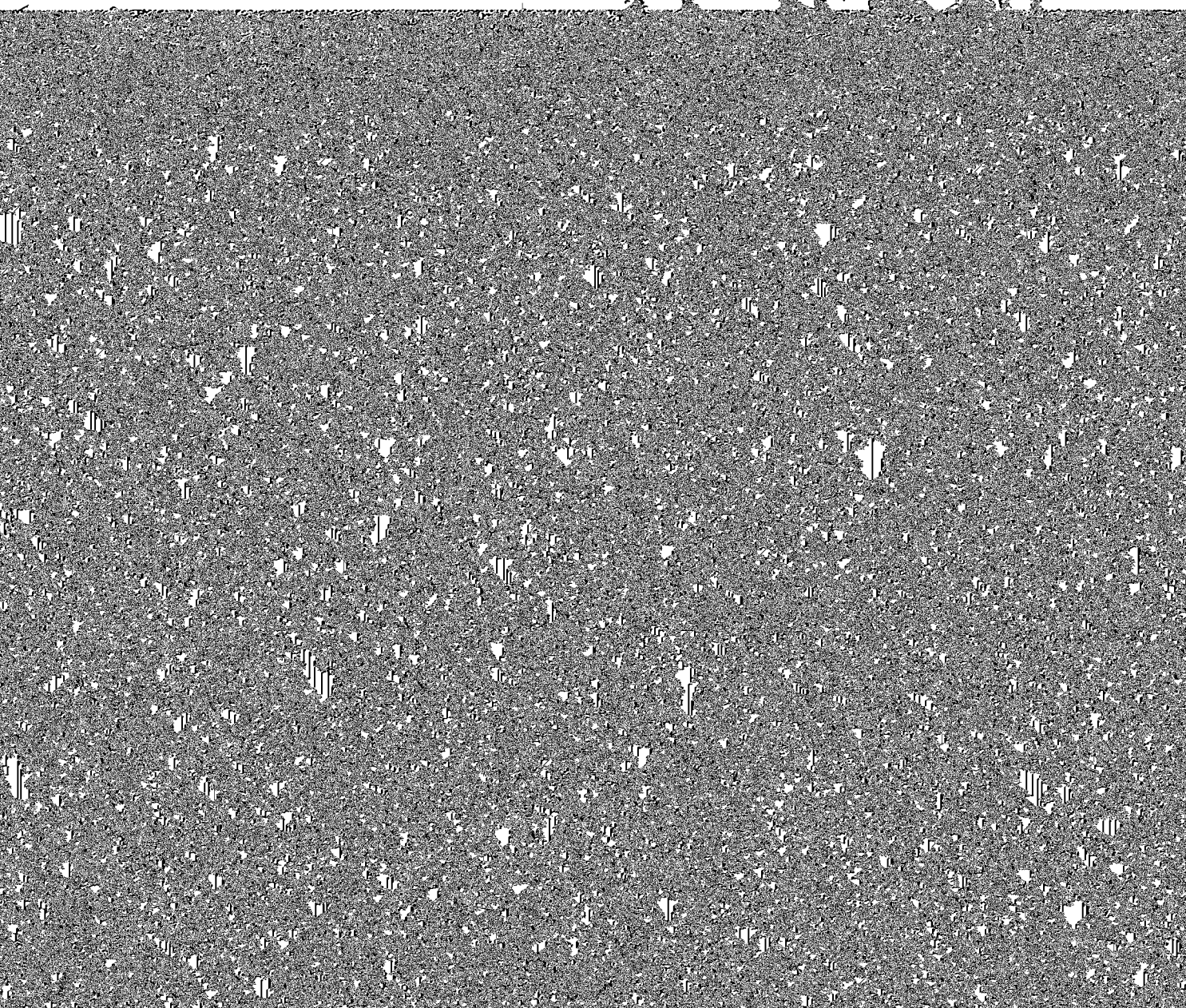
The framers of the conservation sections in the 1985 farm bill had years of experience and observation and studies to rely on in writing the provisions. There had been congressional hearings on various bills after 1981. Many of the provisions that eventually appeared in the bill were laid out earlier in a report, "Soil Conservation in

analysis on various provisions included in the bill (6, 10).

Under the support and chairmanship of Congressman Ed Jones of Tennessee, the Subcommittee on Conservation, Credit, and Rural Development of the House Committee on Agriculture had long been the incubator for new soil conservation legislation, including many forerunners of the conservation provisions in the 1985 farm bill. During April 1985, Senator Richard Lugar of Indiana chaired sessions of the Senate Committee on Agriculture, Nutrition, and Forestry on the reauthorization of the 1981 farm bill. At these meetings the conservation coalition laid out its agenda.

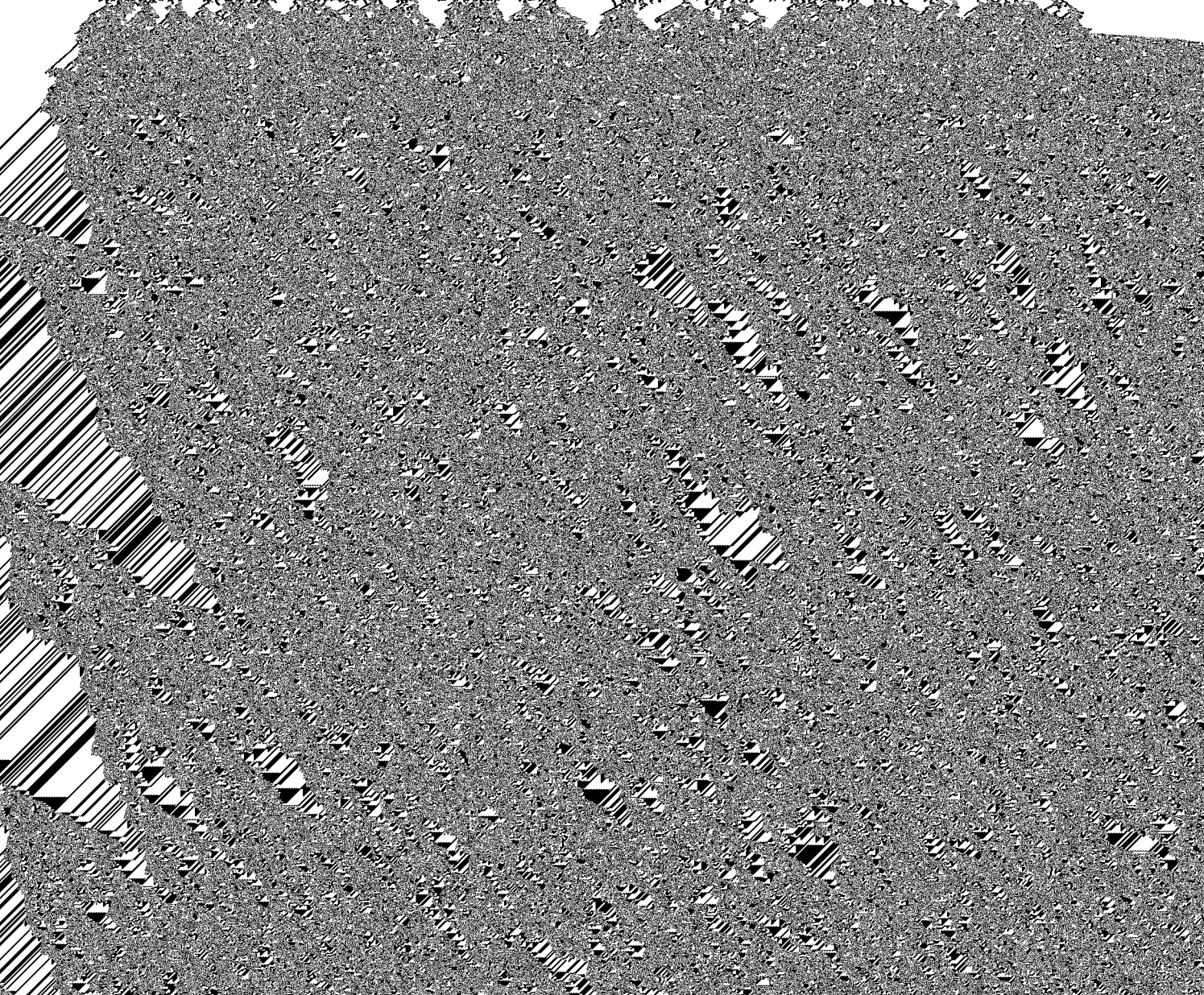
patterns, and writing conservation plans. A field is considered highly erodible if one-third of its soil map units, or as much as 50 acres in it, are highly erodible. About 120 million acres on 1.7 million out of the 2.3 million farms in the United States are affected. SCS concentrated first on conservation compliance and is now turning its attention to making wetland determinations. Of the estimated 70 million acres of wetlands, about 5 million acres have potential for conversion to cropland and thus are affected.

Not only has there been a high work load, but there has also been the stress associated with rendering unpopular options. Conservation compliance has resulted in a role change for soil conservationists. They can



farmers have that may provide the incentive for conservation? Future analyses of the response to conservation compliance legislation may provide some answers to these questions. Conservation compliance focuses more attention, both on the part of the farmer and SCS, on the benefits, costs, and motivations involved in soil conservation.

Also, the economic aspect should influence the range of options available to farmers. That is to say, it should influence the design of conservation systems. One criticism of soil conservation practices has been that too often practices have not been designed for small farmers with limited resources. This, of course, is not a new concern. When speaking of working with minority groups, Kenneth E. Grant, then competitors for conservation funds. Bennett successfully argued against an emergency terracing program and made the case that there was more to soil conservation than terracing. When the Soil Erosion Service started contacting the farmers in demonstration project areas, they worked out conservation plans for the whole farm. The concept was and is good. But the agency has still had to struggle with a couple of problems. First, in judging progress in soil conservation on the land or the employee's effectiveness, completion of plans could too readily be confused with accomplishments. Conservation compliance has changed the focus. The farmer is more likely to look at his or her operation as a whole when making decisions about the crop rotations, cover crops, and other aspects of a conservation system. Planning and application of



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Agriculture That Fits the Environment: A Look Backward and Forward

Reprinted from *Agriculture and the Environment: 1991 Yearbook of Agriculture.* Washington, D.C.: U.S. Department of Agriculture, 1991. pp. 9-15.

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The search continues for an agriculture that fits the land as well as maintains it. Public opinion polls increasingly identify the environment as a major public concern.

Through legislation passed by Congress and signed by the President, this concern has been translated into action affecting numerous aspects of life in the United States--including life on the farm. Within the past decade, laws such as the Food Security Act of 1985, the Clean Water Act amendments of 1987, and the Conservation Program Improvements Act of 1990 (part of the 1990 farm bill) called for modifications in programs and development of new ones in USDA. The intent of the new laws is to ensure that USDA's programs are compatible with our environmental objectives.

But, if we are to maintain environmental quality, we must have a mechanism and a source of knowledge to turn legislative intent into action on the land. Fortunately for the American public and American farmers, earlier concerns over soil and water conservation led to a system that helps producers farm efficiently while still meeting environmental objectives. Without the scientific research, the practical experience, and the development of institutions at the local, State, and Federal level, public concerns about the environment would be far more difficult to translate into action at the farm level.

Looking Backward

New crops, new climates, virgin soils, and new social and governmental systems influenced agriculture. Conversely, agriculture influenced the environment. It wasn't long before perceptive people could recognize that the meshing of agriculture with the environment of North America was not completely harmonious.

During the 18th and 19th centuries, Americans borrowed and developed methods for soil conservation. Growing concerns in the 20th century led to the development of Government programs to help farmers use the soil while at the same time reducing erosion. Starting in 1929, USDA focused on research, setting up experiment stations to test methods of soil conservation.

The Soil Conservation Act of 1935 established the Soil Conservation Service (SCS) to work with farmers. With the encouragement of President Franklin D. Roosevelt and USDA, States passed laws to allow farmers to create conservation districts. Since 1937, farmers, ranchers, and other landowners have created nearly 3,000 conservation districts and, all along, the SCS has had trained soil conservationists working with these local conservation districts and the farmers. It is this system--the experience, knowledge of land and resources, familiarity with the local landowners, and governmental institutions--that makes it possible to shape on-farm management to meet national goals.

At the same time SCS was developing expertise in soil conservation, some developments in agriculture did not bode well

for conservation. Part of the problem was the increasing specialization of agriculture. The mixture of cropland and livestock had allowed for many conservation techniques, such as using the steeper lands for pasture and hay, rotating crops, and interspersing close-growing crops into strip-cropping to

legislation, first in the 1981 farm bill, and to a much greater extent in the Food Security Act of 1985.

The Conservation Reserve Program is intended to remove highly erodible land from production by paying farmers an an-

The field staff in about 2,800 field offices has dealt directly with conservation districts and farmers. That work has kept SCS and ASCS busy during the past 5 years and will require most of the time of the SCS staff for the coming 4 years. After developing the criteria for defining highly erodible

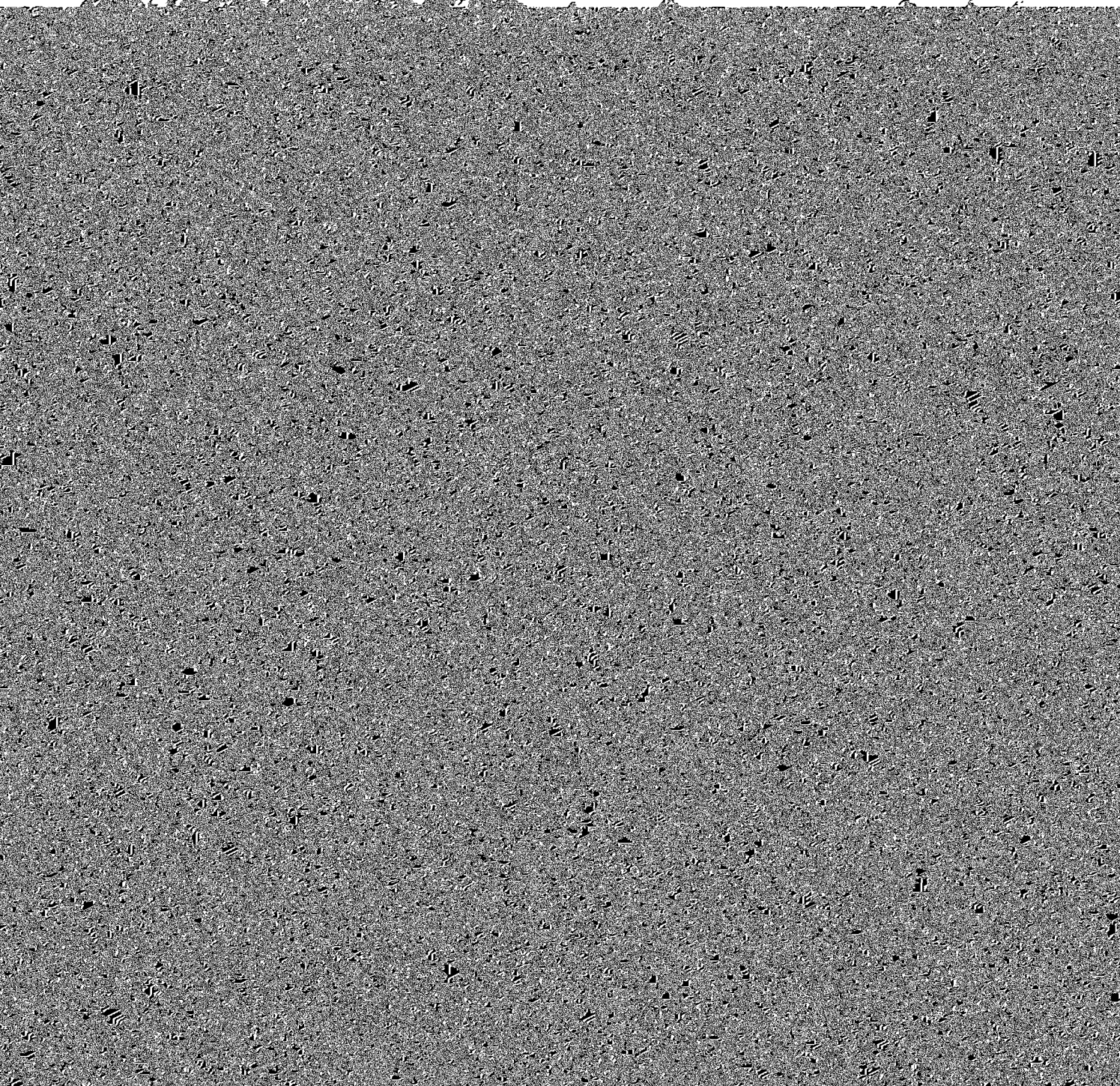
Government price support programs started in the 1930s, farmers often had to set aside lands on an annual basis. The Soil Bank of the late 1950s and early 1960s promoted a longer term shifting of cropland to trees or grass through contracts. The general criticism of these programs has been that the

and the Canadians defined the problem and developed solutions.

During the 1970s USDA learned a great deal from the Rural Clean Water Program (RCWP), which included a number of pilot and demonstration projects. The projects tested the value of various methods as well as the feasibility of getting farmers to use them.

President George Bush's State of the Union message on February 9, 1989, included a major water quality initiative that pertained

and the near future. Farmers and the State and Federal agencies with which they work will live in this climate of concern. But in a larger sense the recent legislation is part of a longer quest for agriculture that fits the environment, in which the impetus for adaptation is not a response to legislation but an acknowledgment of the forces of nature.



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